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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/071,135

02/06/2002

Jose Merino-Lopez

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2661

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1733

MAIL DATE

DELIVERY MODE

03/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

✓

Interview Summary	Application No.	Applicant(s)	
	10/071,135	MERINO-LOPEZ ET AL.	
	Examiner	Art Unit	
	Steven D. Maki	1733	

All participants (applicant, applicant's representative, PTO personnel):

(1) Steven D. Maki. (3) _____

(2) Carl Wischhusen. (4) _____

Date of Interview: 27 February 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____

Claim(s) discussed: 1, 7, 8, 34 (new) and 45 (new).

Identification of prior art discussed: art of record including Brazil, Japan 802, Breuer et al, Winner et al, Eudy and Japan 321.

as to proposed amended claim 7


Agreement with respect to the claims f) ☒ was reached g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: see interview summary action attachments A and B.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Interview Summary Attachment A

With respect to claim 1, applicant's representative proposed changing "obtained" to --obtainable--. Examiner agreed that this change would overcome the 112 second paragraph rejection.

With respect to Brazil (BR 2000002924), applicant's representative proposed amending claim 7 by adding "subject matter of claim 8" (the surface area of the central zone is at least substantially equivalent to the surface area of the encircling zone) and the "low height subject matter" (the surface of the central zone is located at a distance from the wheel axle that is less than the distance of a surface of the encircling zone"). Applicant's representative noted that Japan 802 (JP 62-6802) was not applied against claim 8. Applicant's representative argued that Eudy (US 2,152,883) and Japan 321 (JP 6-171321) were applied to claim 8, but do not have the low height central zone. Examiner agreed that proposed amended claim 7 would be allowable over the prior art.

With respect to 102 rejection over Winner (DE 3939917), applicant proposed amending claim 1 to recite "all of the first tread elements are substantially the same element". With respect to this proposal, examiner commented that Winner et al teaches measuring elements having the same shape but different inclinations. Discussed the first elements having the same property. Discussed use of plural groups of Winner et al's measuring elements. Also, discussed new claim 34. Examiner acknowledged disclosure of computer in paragraph 174 of the specification and programmed microprocessor / evaluating means in paragraph 186 of the specification. Examiner noted that this new claim 34 requires further search and/or consideration.

Art Unit: 1733

With respect to 103 rejection using Breuer et al (DE 3937966), discussed issue of wet skid and sliding in Knill (US 4,319,620) and suggestion to locate sensor in tread element which slides.

Applicant's representative proposed adding a new claim 45 directed to a method. Examiner noted that a restriction was previously made in this application and that the method is the non-elected invention.

INTERVIEW SUMMARY ATTACHMENT B**FITZPATRICK, CELLA, HARPER & SCINTO**

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FACSIMILE COVER SHEET

TO: Examiner Steven Maki
U.S.P.T.O.

FROM: Carl B. Wischhusen

RE: U.S. Application No. 10/071,135
Group Art Unit: 1733
Our Ref. No. 03161.001145.1

FAX NO.: 571-273-1221

DATE: February 27, 2007

NO. OF PAGES: 7
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INTERVIEW SUMMARY ATTACHMENT B

Atty. Dock.: 03161.001145.1
U.S. Appln. No.: 10/071,135

Examiner: Steven D. Maki
Group Art Unit: 1733

AGENDA FOR INTERVIEW

I. Rejections Under 35 U.S.C. § 112

A. Claims 1 and 31 have been amended as suggested by the Examiner to recite that an estimate of a tangential force on the vehicle wheel is obtainable based on the signal produced by the at least one first tread element. Claim 33 has been similarly amended.

II. Rejections Based on Brazil in View of Various References in the Alternative

A. Amended Claim 7 is directed to a tire in which, *inter alia*, each of the first tread elements has a central zone surrounded by an encircling zone. The tread element has the following characteristics:

1. the surface area of the central zone is at least substantially equivalent to the surface area of the encircling zone;
2. the surface of the central zone is located at a distance from the wheel axle that is less than the distance of a surface of the encircling zone; and
3. the central zone has a resistance to a force directed perpendicular to the surface of the tread which is less than a resistance to a force directed perpendicular to the surface of the tread offered by the encircling zone.

B. As acknowledged in the Office Action, Brazil does not teach or suggest a tire tread having a central zone surrounded by an encircling zone.

C. The Examiner cited Eudy and Japan '321 as disclosing a configuration in which the surface area of the central zone is at least substantially equivalent to the surface area of the encircling zone (see Office Action at bottom of page 9), as recited in Claim 7. However, neither of these references teaches or suggests that the surface of the central zone is located at a distance from the wheel axle that is less than the distance of a surface of the encircling zone, as further recited in Claim 7.

D. In fact, none of the secondary references teaches or suggests the combination of features now recited in Claim 7.

INTERVIEW SUMMARY ATTACHMENT B

III. Rejections Based on Winner

A. Winner, as discussed in previous Amendments, relates to a tire having numerous measurement knobs of varying inclination. To estimate tangential force on the vehicle, detections from a number of such knobs are considered in combination.

B. Claim 1 has been amended to recite a plurality of first tread elements, each comprising a sensor capable of producing a signal representative of a level of tangential force in the contact surface of the respective first tread element during passage through the contact area, wherein all of the first tread elements are substantially the same element.

C. Winner simply does not teach or suggest such a configuration.

IV. Rejections Based on Breuer in view of Knill and/or Kukimoto

A. Breuer relates to a system for determining the conditions of dynamic engagement between a vehicle tire and a roadway. The tire includes a measurement sensor within a tread block or rib of the tread. The sensor detects the local stresses in circumferential, transverse and perpendicular directions as a point passes through the tire contact zone, as the tire rolls along the roadway.

B. Breuer does not teach or suggest placing a measurement sensor in a tread portion that slides, as claimed in Claim 1. To the contrary, Breuer relies on measurement of local tensions, stretches and deformations of a tire lug (see machine translation of Breuer), which suggests placement of the sensor in a portion that does not slide. Moreover, in the sole embodiment shown in Breuer, the measurement sensor is in the center portion of the tire tread, which is designed not to slide.

C. Knill discloses a tire tread having an axially central tread portion with a wet skid resistance value of 100 and outer tread portions with a wet skid resistance value of 80 to 95. This design purportedly results in a composite wet skid resistance of 90 to 100 (see col. 2, lines 33-39).

D. Even assuming, *arguendo*, that there is a condition under which a portion of Knill's tire tread would slide, whereas another portion would not, Knill provides absolutely no guidance as to the placement of a measurement sensor.

E. As noted above, Breuer does not teach or suggest placing the measurement sensor in a tread portion that slides, but rather, shows a sensor in a central portion of the tire tread, which does not slide.

INTERVIEW SUMMARY ATTACHMENT B

F. Thus, the combination of Breuer and Knill, assuming such a combination would be proper, does not teach or suggest placing a measurement sensor in a tread portion that slides, as claimed in Claim 1.

G. It is more likely that in combining Breuer and Knill, one of ordinary skill in the art would have placed the measurement sensor in the central portion of Knill, which does not slide.

H. Kukimoto discloses various configurations of tire treads having land portions separated by grooves that contain sacrificed tread portions. Kukimoto, like Knill, provides absolutely no guidance as to the placement of a measurement sensor. Therefore, Kukimoto does nothing to remedy the shortcomings of Breuer and Knill in this regard.

V. New Independent Claims 34 and 45

A. New independent Claim 34, presented below, is directed to a system for determining conditions of dynamic engagement between a vehicle tire and a roadway. Claim 45 is a corresponding method claim.

B. Claim 34 is believed to be patentable over the combination of Breuer and Knill and/or Kukimoto, because, as discussed above, that combination does not teach or suggest placing a measurement sensor in a tread portion that slides, as claimed.

C. Claim 34 is believed to be patentable over Winner, because Winner's evaluation unit calculates the momentary friction between the tire and the rolling surface based on binary detections from multiple knobs.

D. By contrast, Claim 34 recites that the sensor in the first tread element produces a signal proportional to a tangential force acting upon the first tread element during its passage through the contact area, and the processor is configured to receive the signal output by the sensor and determine an estimate of a tangential force on the vehicle.

E. Thus, the claimed arrangement, unlike Winner, allows the tangential force on the tire to be estimated from a measurement in a single element (although, as described in the specification, measurements from several elements may be used, if desired).

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Proposed Claim Amendments

1. (Currently Amended) A tire whose tread comprises ~~at least one a~~ a plurality of first tread elements ~~element~~ and ~~at least one a plurality of~~ a plurality of second tread element ~~elements~~, each of the first and second tread elements having a contact surface that, during normal operation of a vehicle wheel equipped with the tire, comes into contact with the ground in a contact area on each revolution of the tire, the first and second tread elements being configured such that, at least under a first rolling condition, the contact surfaces ~~surface of the at least one first tread element~~ elements slide ~~slides~~ relative to the ground during ~~[[its]]~~ passage through the contact area, ~~while~~ whereas the contact surfaces of the at ~~least one second tread element does~~ elements do not slide under the first rolling condition, the ~~at least one first tread element~~ elements each comprising a sensor capable of producing a signal representative ~~making a measurement~~ of a level of tangential force in the contact surface of the respective at least one first tread element during ~~[[its]]~~ passage through the contact area, wherein all of the first tread elements are substantially the same element, and an estimate of a tangential force on the vehicle wheel is obtainable ~~[[obtained]]~~ based on the signal produced by each of the at least one first tread element elements, ~~the sensor in each first tread element producing a signal proportional to the tangential force acting upon that first tread element.~~

7. (Currently Amended) A tire according to claim 1, in which each of the first tread element elements, viewed at the surface of the tread, has a central zone surrounded by an encircling zone, the sensor of each of the first tread elements being

INTERVIEW SUMMARY ATTACHMENT B

disposed so as to achieve a measurement in the central zone and being sensitive to at least one tangential force exerted at the surface of the central zone, wherein:

the surface area of the central zone is at least substantially equivalent to the surface area of the encircling zone,

the surface of the central zone is located at a distance from the wheel axle that is less than the distance of a surface of the encircling zone, and

wherein the central zone has a resistance to a force directed perpendicular to the surface of the tread which is less than a resistance to a force directed perpendicular to the surface of the tread offered by the encircling zone.

34. (New) A system for determining conditions of dynamic engagement between a vehicle tire and a roadway, the system comprising:

a tire whose tread comprises at least one first tread element and at least one second tread element, each of the first and second tread elements having a contact surface that, during normal operation of a vehicle wheel equipped with the tire, comes into contact with the ground in a contact area on each revolution of the tire, the first and second tread elements being configured such that, at least under a first rolling condition, the contact surface of the at least one first tread element slides relative to the ground during its passage through the contact area, whereas the at least one second tread element does not slide under the first rolling condition;

INTERVIEW SUMMARY ATTACHMENT B

a sensor provided within the at least one first tread element, the sensor being configured to output a signal representative of a tangential force in the contact surface of the at least one first tread element during its passage through the contact area; and

a processor configured to receive the signal output by the sensor and determine an estimate of a tangential force on the vehicle wheel based on the signal output by the sensor.

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